

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
7 August 2003 (07.08.2003)

PCT

(10) International Publication Number
WO 03/063725 A3

- (51) International Patent Classification⁷: **A61K 39/12**, 39/295, C12N 7/00, C12P 21/06
- (74) Agent: MICHAUD, Susan, M.; Clark & Elbing LLP, 101 Federal Street, Boston, MA 02110 (US).
- (21) International Application Number: PCT/US02/33795
- (22) International Filing Date: 21 October 2002 (21.10.2002)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/346,845 19 October 2001 (19.10.2001) US
- (63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:
US 60/346,845 (CIP)
Filed on 19 October 2001 (19.10.2001)
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (71) Applicant (*for all designated States except US*): ACAM-BIS, INC. [US/US]; 38 Sidney Street, Cambridge, MA 02139 (US).
- Published:
— with international search report
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): MONATH, Thomas, P. [US/US]; 21 Finn Road, Harvard, MA 01451 (US). ARROYO, Juan [US/US]; 102 Ryder Road, South Weymouth, MA 02190 (US).
- (88) Date of publication of the international search report:
30 October 2003
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*



WO 03/063725 A3

(54) Title: METHODS OF PREVENTING AND TREATING FLAVIVIRUS INFECTION IN ANIMALS

(57) Abstract: The invention provides methods of preventing and treating flavivirus infection in animals.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/33795

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61K 39/12, 39/295; C12N 7/00; C12P 21/06

US CL : 424/218.1, 202.1; 435/235.1, 69.1

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 424/218.1, 202.1; 435/235.1, 69.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Please See Extra Sheet.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,184,024 B1 (LAI et al) 06 February 2001, see the claims.	1-8
Y	WO 98/37911 A1 (ORAVAX, INC.) 03 September 1998, see the claims.	1-8
Y	WO 93/06214 A1 (THE UNITED STATES OF AMERICA) 01 April 1993, see the abstract.	1-8
Y	GUIRAKHOO et al. Immunogenicity, Genetic Stability, and Protective Efficacy of a Recombinant, Chimeric Yellow Fever-Japanese Encephalitis Virus (ChimeriVax-Je) as a Live, Attenuated Vaccine Candidate against Japanese Encephalitis. Virology. May 1999, Vol. 257, pages 363-372, see the abstract.	1-8

☒ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"G" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

25 JUNE 2003

Date of mailing of the international search report

11 JUL 2003

Name and mailing address of the ISA/US
Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703) 305-8230

Authorized Officer

A. R. SALIMI

Telephone No. (703) 308-1255

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US02/33795

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	MONATH et al. West Nile Virus Vaccine. Current Drug Targets-Infectious Disorders. May 2001, Vol 1, No. 1, pages 37-50, see the entire document.	1-8
Y	GUIRAKHOO et al. Construction, Safety, and Immunogenicity in Nonhuman Primates of a Chimeric Yellow fever-Dengue Virus Tetravalent Vaccine. Journal of Virology. August 2001, Vol. 75, No. 16, pages 7290-7304, see the abstract.	1-8
Y	ARROYO et al. Molecular Basis for attenuation of Neurovirulence of a Yellow Fever Virus/Japanese Encephalitis Virus Chimera Vaccine (ChimeriVax-JE). Journal of Virology. January 2001, Vol. 75, No. 2, pages 934-942, see the abstract.	1-8
Y	CHAMBERS et al. Yellow Fever/Japanese Encephalitis Chimeric Viruses: Construction and Biological Properties. Journal of Virology. April 1999, Vol. 73, No. 4, pages 3095-3101, see the abstract.	1-8
Y	ARROYO et al. Yellow fever vector live-virus vaccines: West Nile virus vaccine development. Trends in Molecular Medicine. August 2001, Vol. 7, No. 8, pages 350-354, see the entire document.	1-8

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US02/33795

B. FIELDS SEARCHED

Electronic data bases consulted (Name of data base and where practicable terms used):

WEST, EPA, JAP, DREWENT, MEDLINE, NPL, BIOSIS, EMBASE

search terms: chime?, flavivirus, preM, Pre?, yellow fever, dengue, attenu?, flavivi?, Japanese encephalitis